MISSION OPERATIONS AND DATA SYSTEMS DIRECTORATE

EOS Ground System Architecture Description Document

October 1996

National Aeronautics and Space Administration

Goddard Space Flight Center
Greenbelt, Maryland

Preface

This document is final and complete. It has been reviewed by Goddard Space Flight Center and Computer Sciences Corporation personnel and conforms to all publication quality standards.

Questions concerning this document or proposed changes shall be addressed to

D. DeVito, System Engineering Manager
Code 505
Goddard Space Flight Center
Greenbelt, Maryland 20771

Abstract

The Earth Observing System (EOS) Ground System (EGS) is a pivotal element of NASA's long-term effort in the study of the Earth's environment. It is an integrated system of unique, dedicated, and shared subsystems and services that provide test, launch, and on-orbit operations for numerous Earth Observing missions. The unique and dedicated portions of the EGS make up most of its size, scope, and capability, complemented by shared or institutional subsystems.

This EGS Architecture Description Document (ADD) describes the EGS architecture, including its hardware and software components, communications connections, and end-to-end mission data flow.

This document provides an overview of the EOS program, which places in context the EOS Space System (flight spacecraft and instruments), the Integrated Science Research Program (science objectives and the user community), and the EGS.

All the components that together comprise the EGS are addressed in some detail. Component descriptions are provided for the EGS that are unique and dedicated to EOS, for the NASA Institutional Support System, and for those systems that provide spacecraft ground support. The unique and dedicated subsystems are discussed first, reflecting their dominant role in the total system.

Appendix A describes the various missions related to the EOS program but not specifically dedicated to EOS. Appendix B provides further information on EOS spacecraft and instruments. Appendix C discusses three major development efforts for the EGS. A glossary of terms and an acronym listing are also included.

Keywords: *ADD, Architecture, EGS, EOS, EOSDIS, EOS Ground System, ESDIS, GCDIS, MTPE*

Contents

1. Introduction

2. EOS Program Overview

3. EOS Ground System Component Descriptions

Figures

Tables

Appendix A. EGS Support of EOS-Related Missions

Appendix B. Additional EOS Information

Appendix C. EOSDIS Development

Abbreviations and Acronyms

Glossary